

What is claimed is:

1. A data recording/reproducing apparatus,
comprising:

a plurality of record mediums that are
random-accessible;

recording and reproducing means for recording
and reproducing data to and from said plurality of
record mediums; and

a plurality of input and output processing
means for accessing said recording and reproducing
means on time division basis, outputting at least two
different types of data that are input from the outside
to said recording and reproducing means, and outputting
the input data to the outside,

wherein each of said plurality of input and
output processing means has:

input means for outputting record area
information and the data that is input from the outside
to said reproducing and reproducing means so that the
data is recorded to predetermined areas of said
plurality of record mediums corresponding to the
different types of data, and

wherein said recording and reproducing means
records the different types of data to the
predetermined areas of said plurality of record mediums
corresponding to the record area information that is
output from said input means.

2. The data recording and reproducing apparatus
as set forth in claim 1,

wherein the different types of data are video
data and audio data.

3. The data recording and reproducing apparatus
as set forth in claim 1,

wherein the record area information is
information representing an address of a record start
position and an address of a record end position of one
of said plurality of record mediums.

4. A data recording and reproducing method for
accessing recording and reproducing means, outputting
data to the recording and reproducing means, inputting
reproduced data that is output from the recording and
reproducing means, and outputting the data to the
outside, the recording and reproducing means recording
and reproducing the data to a record medium that is
random-accessible on time division basis, the data
containing different types of data that are input from
the outside, the method comprising the steps of:

(a) outputting record area information and
the data to the recording and reproducing means so that
the different types of data are recorded to
predetermined areas of the record medium;

(b) recording the different types of data to
the predetermined areas of the record medium
corresponding to the record area information that is

output to the recording and reproducing means at step
(a); and

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5 (c) reproducing the different types of data
from the predetermined areas of the record medium,
outputting the different types of data on time division
basis, and outputting them to the outside.

5. The data recording and reproducing method as
set forth in claim 4,

10 wherein the different types of data are video
data and audio data.

6. The data recording and reproducing method as
set forth in claim 4,

15 wherein the record area information is
information representing an address of a record start
position and an address of a record end position of the
record medium.

20 7. A data recording apparatus, comprising:
a record medium that is random-accessible;
recording means for recording data to said
record medium; and

25 a plurality of output processing means for
accessing said recording means on time division basis
and outputting at least two different types of data
that are input from the outside to said recording
means,

wherein each of said output processing means
has:

input means for outputting record area information and the data to said recording means so that the different types of data are recorded to predetermined areas of said record medium, and

wherein said recording means records the different types of data to the predetermined areas corresponding to the record area information that is output from said input means.

8. The data recording apparatus as set forth in claim 7,

wherein the different types of data are video data and audio data.

9. The data recording apparatus as set forth in claim 7,

wherein the record area information is information representing an address of a record start position and an address of a record end position of said record medium.

10. A data recording method for accessing recording and reproducing means, outputting data to the recording and reproducing means, and recording the data to the recording and reproducing means, the recording and reproducing means recording the data to a record medium that is random-accessible on time division basis, the data containing different types of data that are input from the outside, the method comprising the steps of:

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(a) outputting record area information and the data to the recording and reproducing means so that the different types of data are recorded to predetermined areas of the record medium; and

5 (b) recording the different types of data to the predetermined areas of the record medium corresponding to the record area information that is output to the recording and reproducing means at step (a).

10 11. The data recording and reproducing method as set forth in claim 10,

wherein the different types of data are video data and audio data.

12. The data recording and reproducing method as
15 set forth in claim 10,

wherein the record area information is information representing an address of a record start position and an address of a record end position of the record medium.

~~20~~ 13. A data recording and reproducing apparatus, comprising:

a record medium that is random-accessible;
recording and reproducing means for recording and reproducing data to and from said record medium,
25 the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing

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means on time division basis, outputting data that is input from the outside to said recoding and reproducing means, inputting data reproduced by said recording and reproducing means, and outputting the data to the outside,

wherein each of said input and output processing means has:

10 input means for changing the divide ratio of a record area for video data and a record area for audio data of said record medium corresponding to at least the data that is input from the outside and outputting record area information and the data to said recording and reproducing means so that the video data and the audio data are recorded to predetermined areas
15 of the record medium, and

wherein said recording and reproducing means records the data to the predetermined areas of the record medium corresponding to the record area information that is output from said input means,
20 reproduces the data from said record medium, and outputs the reproduced data to each of said input and output processing means on time division basis.

14. The data recoding and reproducing apparatus as set forth in claim 13,

25 wherein each of said input and output processing means changes the divide ratio corresponding to the transmission rate of the video data that is

input from the outside and the number of channels of the audio data.

15. The data recoding and reproducing apparatus as set forth in claim 14,

wherein said record medium that is random-accessible is a disc shaped record medium, and

wherein each of said input and output processing means changes the divide ratio corresponding to a recording method of RAID for the audio data along with the transmission rate of the video data and the number of channels of the audio data.

16. The data recoding and reproducing apparatus as set forth in claim 13,

wherein the record area information is information representing an address of a record start position and an address of a record end position of said record medium.

17. A data recording and reproducing method for accessing recording and reproducing means, outputting data to the recording and reproducing means, inputting reproduced data that is output from the recording and reproducing means, and outputting the data to the outside, the recoding and reproducing means recording and reproducing the data to and from a record medium that is random-accessible, the data containing video data and audio data that are input from the outside, the method comprising the steps of:

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(a) changing the divide ratio of a record area for the video data and a record area for the audio data on the record medium corresponding to at least the data that is input from the outside and outputting record area information and the data to the recording and reproducing means so that the video data and the audio data are recorded to different record areas of the record medium;

10 (b) recording the video data and the audio data to the different record areas of the record medium corresponding to the record area information that is output to the recording and reproducing means at step (a); and

15 (c) reproducing the data from the record medium and outputting the reproduced data to each of input and output processing means.

18. The data recording and reproducing method as set forth in claim 17,

20 wherein step (a) is performed by changing the divide ratio corresponding to the transmission rate of the video data that is input from the outside and the number of channels of the audio data.

19. The data recording and reproducing method as set forth in claim 18,

25 wherein the record medium that is random-accessible is a disc shaped record medium, and

wherein step (a) is performed by changing the

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divide ratio corresponding to a recording method of RAID for the audio data along with the transmission rate of the video data and the number of channels of the audio data. /

5 20. The data recording and reproducing method as set forth in claim 17,

wherein the record area information is information representing an address of a record start position and an address of a record end position of the record medium.

10 21. A data recording apparatus, comprising:
a record medium that is random-accessible;
recording means for recording data containing video data and audio data to said record medium;

15 a plurality of input and output processing means for accessing said recording means on time division basis and outputting data that is input from the outside to said recording means,

20 wherein each of said input and output processing means has:

25 input means for changing the divide ratio of a record area for the video data and a record area for the audio data of said record medium corresponding to at least the data that is input from the outside and outputting record area information and the data to said recording means so that the video data and the audio data are recorded to different record areas of said

record medium, and

wherein said recording means records the data to the different record areas of said record medium corresponding to the record area information that is output from said input means.

22. The data recording apparatus as set forth in claim 21,

wherein each of said input and output processing means changes the divide ratio corresponding to the transmission rate of the video data that is input from the outside and the number of channels of the audio data.

23. The data recording apparatus as set forth in claim 22,

wherein said record medium that is random-accessible is a disc shaped record medium, and

wherein each of said input and output processing means changes the divide ratio corresponding to a recording method of RAID for the audio data along with the transmission rate of the video data and the number of channels of the audio data.

24. The data recording apparatus as set forth in claim 21,

wherein the record area information is information representing an address of a record start position and an address of a record end position of said record medium.

25. A data recording method for accessing recording means, outputting data to the recording means, and recording the data, the recording means recording the data to a record medium that is random-accessible on the time division basis, the data containing video data and audio data that are input from the outside, the method comprising the steps of:

(a) changing the divide ratio of a record area for video data and a record area for audio data of the record medium corresponding to at least the data that is input from the outside and outputting record area information and the data to the recording means so that the video data and the audio data are recorded to the different record areas of the record medium; and

(b) recoding the video data and the audio data to the different record areas of the record medium corresponding to the record area information that is output to the recording means at step (a).

26. The data recording method as set forth in claim 25,

wherein step (a) is performed by changing the divide ratio corresponding to the transmission rate of the video data that is input from the outside and the number of channels of the audio data.

27. The data recording method as set forth in claim 26,

wherein the record medium that is random-

accessible is a disc shaped record medium, and

wherein step (a) is performed by changing the divide ratio corresponding to a recording method of RAID for the audio data along with the transmission rate of the video data and the number of channels of the audio data.

28. The data recording method as set forth in claim 25,

wherein the record area information is information representing an address of a record start position and an address of a record end position of the record medium.

29. A data recording and reproducing apparatus, comprising:

a plurality of record mediums that are random-accessible;

recording and reproducing means for recoding and reproducing data to and from said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing means on time division basis, outputting data that is input from the outside to said recoding and reproducing means, inputting data reproduced by said recoding and reproducing means, and outputting the data to the outside,

wherein each of said input and output processing means has:

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5 input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that parity data of the audio data is recorded to a record medium different from the record medium for the audio data and the same as the record medium for the video data, the record area for the parity data being different from the record area for the video data, and

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15 wherein said recording and reproducing means records the data to the record areas of said record mediums and reproduces the data from said plurality of record mediums corresponding to the record area information that is output from said input means..

20 30. The data recording and reproducing apparatus as set forth in claim 29,

25 wherein the record area information is information representing an address of a record start position and an address of a record end position of each of said plurality of record mediums.

31. A data recoding and reproducing method for accessing recording and reproducing means, outputting

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data to the recording and reproducing means, inputting data reproduced by the recoding and reproducing means, and recording and reproducing the data, the recording and reproducing means recording and reproducing the data to and from a plurality of record mediums that are random-accessible on time division basis, the data containing video data and audio data that are input from the outside, the method comprising the steps of:

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10 (a) outputting record area information and the data to the recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that parity data of the audio data is

15 recorded to a record medium different from the record medium for the audio data and the same as the record medium for the video data, the record area for the parity data being different from the record area for

20 the video data;

(b) recording the data to the record areas of the plurality of record medium corresponding to the record area information that is output to the recording and reproducing means at step (a); and

25 (c) reproducing the data recorded at step (b), outputting the data on time division basis, and outputting the data to the outside.

32. The data recording and reproducing method as set forth in claim 31,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of the plurality of record mediums.

33. A data recording apparatus, comprising:
a plurality of record mediums that are random-accessible;

recording and reproducing means for recording and reproducing data to and from said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing means on time division basis and outputting data that is input from the outside to said recording means,

wherein each of said input and output processing means has:

input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that parity data of the audio data is recorded to a record medium different

from the record medium for the audio data and the same as the record medium for the video data, the record area for the parity data being different from the record area for the video data, and

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wherein said recording means records the data to the record areas of said plurality of record mediums corresponding to the record area information that is output from said input means.

34. The data recording apparatus as set forth in claim 33,

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wherein the record area information is information representing an address of a record start position and an address of a record end position of each of said plurality of record mediums.

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35. A data recording method for accessing recording means, outputting data to the recording means, and recoding the data, the recording means recording the data to a record medium that is random-accessible on time division basis, the data containing
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video data and audio data that are input from the outside, the method comprising the steps of:

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(a) outputting record area information and the data to the recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record

medium, and that parity data of the audio data is recorded to a record medium different from the record medium for the audio data and the same as the record medium for the video data, the record area for the parity data being different from the record area for the video data; and

(b) recording the data to the record areas of the plurality of record mediums corresponding to the record area information that is output to the recording means at step (a).

36. The data recording method as set forth in claim 35,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of the plurality of record mediums.

37. A data recording and reproducing apparatus, comprising:

a plurality of record mediums that are random-accessible;

recording and reproducing means for recording and reproducing data to and from said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing means on time division basis, outputting data that is

input from the outside to said recording and reproducing means, inputting data reproduced by said recording and reproducing means, and outputting the data to the outside,

5 wherein each of said input and output processing means has:

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10 input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that different channels of the audio data are recorded to different record mediums, and

15 wherein said recording and reproducing means records the data to the record areas of said plurality of record mediums corresponding to the record area information that is output from said input means and reproduces the data recorded on said plurality of record mediums.

20 38. The data recoding and reproducing apparatus as set forth in claim 37,

25 wherein the record area information is information representing an address of a record start position and an address of a record end position of each of said plurality of record mediums.

5 39. A data recoding and reproducing method for
accessing recording and reproducing means, outputting
data to the recoding and reproducing means, inputting
data reproduced by the recording and reproducing means,
and recording and reproducing the data, the recording
and reproducing means recoding and reproducing the data
to and from a plurality of record mediums that are
random-accessible on time division basis, the data
containing video data and audio data that are input
10 from the outside, the method comprising the steps of:

15 (a) outputting record area information and
the data to the recording and reproducing means so that
the video data is recorded corresponding to RAID3
composed of the plurality of record mediums, that the
audio data is recorded to a record area different from
a record area for the video data of the same record
medium, and that different channels of the audio data
are recorded to different record mediums;

20 (b) recording the data to the record areas of
the plurality of record mediums corresponding to the
record area information that is output to the recording
and reproducing means at step (a); and

25 (c) reproducing the data recorded at step
(b), outputting the reproduced data on time division
basis, and outputting the data to the outside.

40. The data recoding and reproducing method as
set forth in claim 39,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of the plurality of record mediums.

41. A data recording apparatus, comprising:

a plurality of record mediums that are random-accessible;

recording means for recoding data to said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recoding means on time division basis and outputting data that is input from the outside to said recording means,

wherein each of said input and output processing means has:

input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that different channels of the audio data are recorded to different record mediums, and

wherein said recording means records the data to the record areas of said plurality of record mediums

corresponding to the record area information that is output from said input means.

42. The data recording apparatus as set forth in claim 41,

5 wherein the record area information is information representing an address of a record start position and an address of a record end position of each of said plurality of record mediums.

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43. A data recording method for accessing
10 recording means, outputting data to the recording means, and recording the data, the recording means recording the data to a plurality of record mediums that are random-accessible on time division basis, the data containing video data and audio data that are
15 input from the outside, the method comprising the steps of:

(a) outputting record area information and the data to the recording and reproducing means so that the video data is recorded corresponding to RAID3
20 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that different channels of the audio data are recorded to different record mediums; and

25 (b) recording the data to the record areas of the plurality of record mediums corresponding to the record area information that is output to the recording

means at step (a).

44. The data recording method as set forth in claim 43,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of the plurality of record mediums.

45. A data recording and reproducing apparatus, comprising:

a plurality of record mediums that are random-accessible;

recording and reproducing means for recording and reproducing data to and from said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing means on time division basis, outputting data that is input from the outside to said recording and reproducing means, and inputting data reproduced by said recording and reproducing means,

wherein each of said input and output processing means has:

input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of

record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that the same audio data is recorded to the plurality of record mediums, and

wherein said recording and reproducing means records the data to the record areas of said plurality of record mediums corresponding to the record area information that is output from said input means.

46. The data recording and reproducing apparatus as set forth in claim 45,

wherein said input means outputs the record area information so that the audio data is recorded to a record area different from a record area for the video data of the same record medium and that the audio data is recorded corresponding to RAID1.

47. The data recoding and reproducing apparatus as set forth in claim 45,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of said plurality of record mediums.

48. A data recording and reproducing method for accessing recording and reproducing means, outputting data to the recording and reproducing means, inputting data reproduced by the recording and reproducing means, and recoding and reproducing the data, the recording

and reproducing means recording and reproducing the data to and from a plurality of record mediums that are random-accessible on time division basis, the data containing video data and audio data that are input from the outside, the method comprising the steps of:

(a) outputting record area information and the data to the recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that the same audio data is recorded to the plurality of record mediums;

(b) recording the data to the record areas of the plurality of record medium corresponding to the record area information that is output to the recording and reproducing means at step (a); and

(c) reproducing the data recorded at step (b), outputting the data on time division basis, and outputting the data to the outside.

49. The recording and reproducing method as set forth in claim 48,

wherein step (a) is performed by outputting the record area information so that the audio data is recorded to a record area different from a record area for the video data of the same record medium and that the audio data is recorded corresponding to RAID1.

50. The recording and reproducing method as set forth in claim 48,

wherein the record area information is information representing an address of a record start position and an address of a record end position of each of the plurality of record mediums.

51. A data recording apparatus, comprising:

a plurality of record mediums that are random-accessible;

recording and reproducing means for recording and reproducing data to and from said plurality of record mediums, the data containing video data and audio data; and

a plurality of input and output processing means for accessing said recording and reproducing means on time division basis and outputting data that is input from the outside to said recording and reproducing means,

wherein each of said input and output processing means has:

input means for outputting record area information and the data to said recording and reproducing means so that the video data is recorded corresponding to RAID3 composed of the plurality of record mediums, that the audio data is recorded to a record area different from a record area for the video data of the same record medium, and that the same audio

data is recorded to the plurality of record mediums,
and

wherein said recording and reproducing means
records the data to the record areas of said plurality
of record mediums corresponding to the record area
information that is output from said input means.

52. The data recording apparatus as set forth in
claim 51,

wherein said input means outputs the record
area information so that the audio data is recorded to
a record area different from a record area for the
video data of the same record medium and that the audio
data is recorded corresponding to RAID1.

53. The data recording apparatus as set forth in
claim 51,

wherein the record area information is
information representing an address of a record start
position and an address of a record end position of
each of said plurality of record mediums.

54. A data recording method for accessing
recording means, outputting data to the recording
means, and recording the data, the recording means
recording the data to a plurality of record mediums
that are random-accessible on time division basis, the
data containing video data and audio data that are
input from the outside, the method comprising the steps
of:

5 (a) outputting record area information and
the data to the recording and reproducing means so that
the video data is recorded corresponding to RAID3
composed of the plurality of record mediums, that the
audio data is recorded to a record area different from
a record area for the video data of the same record
medium, and that the same audio data is recorded to the
plurality of record mediums; and

10 (b) recording the data to the record areas of
the plurality of record mediums corresponding to the
record area information that is output to the recording
means at step (a).

55. The data recording method as set forth in
claim 54,

15 wherein step (a) is performed by outputting
the record area information so that the audio data is
recorded to a record area different from a record area
for the video data of the same record medium and that
the audio data is recorded corresponding to RAID1.

20 56. The data recording method as set forth in
claim 54,

25 wherein the record area information is
information representing an address of a record start
position and an address of a record end position of
each of the plurality of record mediums.